

A REPORT
ON THE
ELECTROMAGNETIC
AND
GEOCHEMICAL SOIL SAMPLING
SURVEYS
AND
DIAMOND DRILLING PROGRAMME
ON THE
MOHAWK PROPERTY
HAZLETON AREA
OMINICA MINING DIVISION
BRITISH COLUMBIA

FOR

CUMO RESOURCES LTD.

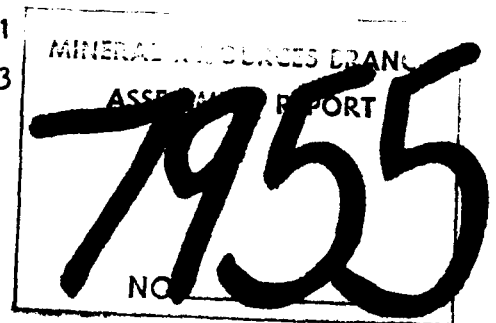
BY

C.T. PASIEKA, P.ENG.
JANUARY 16, 1980

Reference Sheet: N93M/5

Coordinates: 55⁰ 17' N
127⁰ 33' W

Claims:	Lucky Jim - Lot # 1538	Rec. No. 240
	FN Fraction - Lot # 1548	Rec. No. 242
	Banker Hill - Lot # 1542	Rec. No. 241
	Mohawk - Lot # 5048	Rec. No. 243



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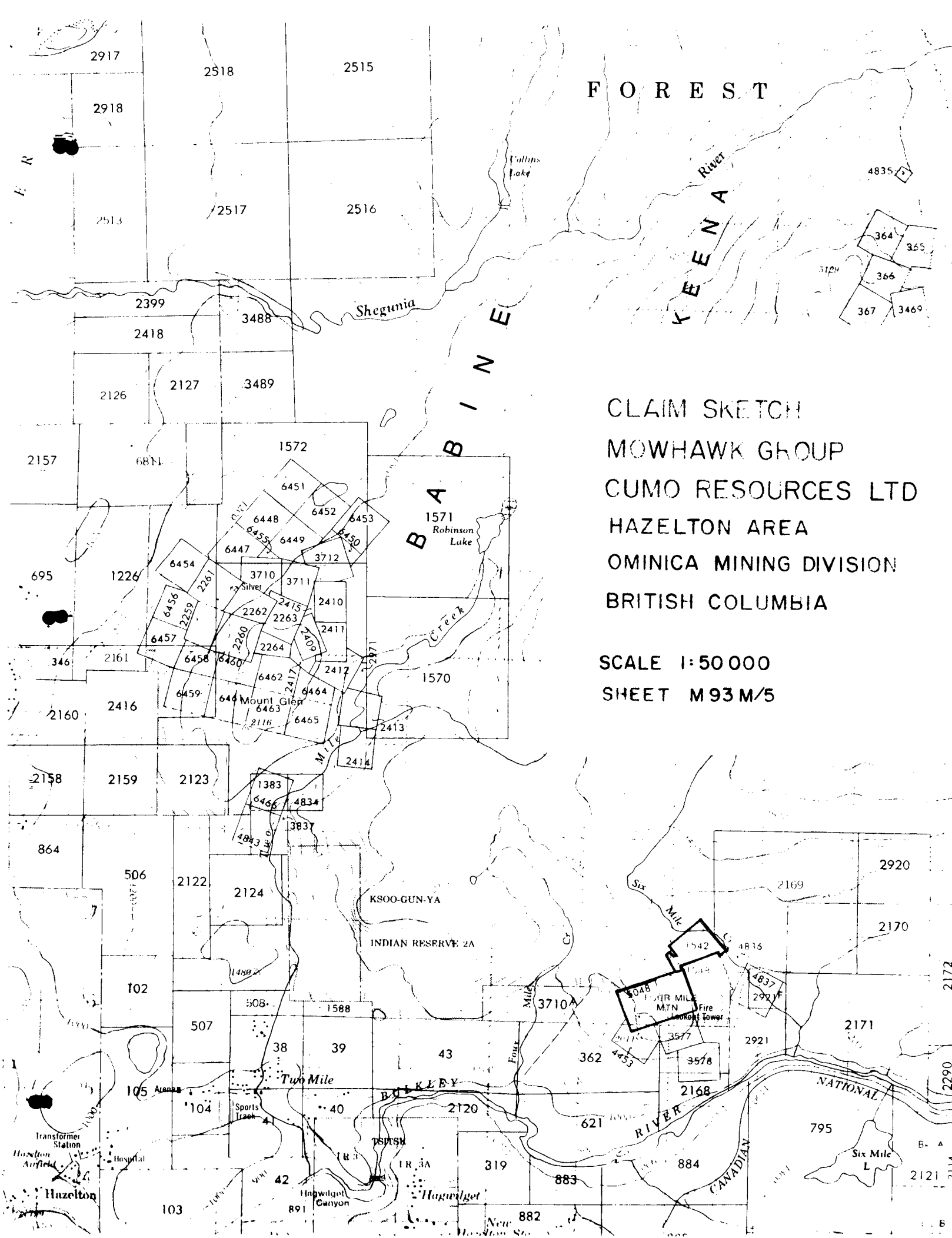
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SUMMARY

The property under discussion hereinafter referred to as the Mohawk Property, consists of four reverted Crown Granted mineral claims comprising some 150 acres. The property straddles the summit of Four Mile Mountain with elevations varying from 1700' to 2200' ASL. The claim group is situated some 8 km east - northeast of Hazelton, British Columbia, Ominica Mining Division. Vehicular access to the property is available from Hazelton via the Bulkley Valley road and thence by the Four Mile forestry access road to the property itself.

The Mohawk Claim Group overlies a portion of the contact between highly altered sedimentary and volcanic rocks of the Hazelton Group and a boss of intruded granodiorite of Upper Cretaceous age. Within the contact zone between the sediments and intrusive rocks occur a multiplicity of silicified shear zones. The quartz within the shear zones frequently may carry knots and blebs of sulphides including galena, sphalerite, tetrahedrite and pyrite as well as minimal amounts of antimony and arsenic. One of these offset shear lineations has been investigated in the past with two underground openings. One of these adits is still available for observation in part. Exploration activity in the past has indicated the presence of mineralization of sufficient tenor to be economically significant but only over limited widths. The recently completed exploration programme consisting of an electromagnetic and geochemical soil sampling survey followed by diamond drilling was executed in an attempt to extend the limits of the known mineralization and to discover similar structures as yet unknown. The electro-

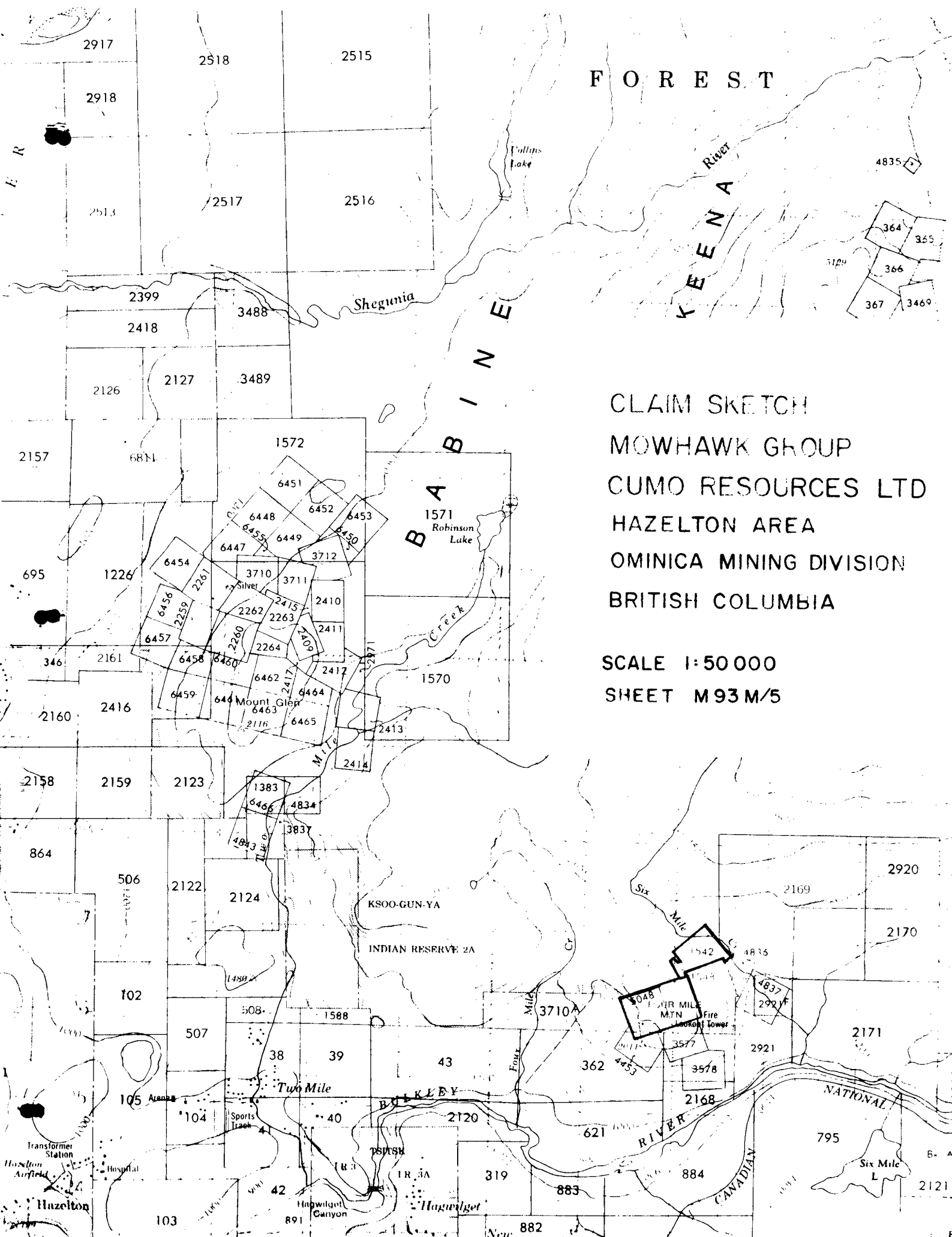
magnetic survey was not successful in delineating any conductive axes. The geochemical soil sampling survey indicated two anomolous zones occurring near the known workings in the central area of the Mohawk claim and a second zone along the south margin of the Mohawk claim. The diamond drill hole sectioned a minor zone of mineralization some 2' in length at a depth of 186' which yielded gold, Tr, silver, 3.46 ounces to the ton, lead, 2.23% and zinc, 3.32%. These values are consistant with those derived from surface and underground sampling. In order to determine the causitive factors of the anomolous geochemical indications a programme of bulldozer stripping and diamond drilling is recommended. Such a programme would entail the expenditure of some \$20,400.00 however execution of the programme would be contingent upon the current economic climate.



FOREST

CLAIM SKETCH
 MOWHAWK GROUP
 CUMO RESOURCES LTD
 HAZELTON AREA
 OMINICA MINING DIVISION
 BRITISH COLUMBIA

SCALE 1:50 000
 SHEET M93M/5



PROPERTY

The property under discussion hereinafter referred to as the Mohawk Group, consists of four contiguous reverted, Crown Granted mineral claims as follows: Lucky Jim, Lot No. 1538, Record No. 240; Banker Hill, Lot No. 1542, Record No. 241; FN Fraction, Lot No. 1548, Record No. 242; Mohawk, Lot No. 5048, Record No. 243. The above listed claims comprise some 150 acres and are located in the Hazelton area, Ominica Mining Division, Province of British Columbia.

LOCATION AND ACCESS

The Mohawk group of claims is located some 8 km ENE of the town of Hazelton, British Columbia, Ominica Mining Division. Facile access to the property is available by means of Highway #16 to Hazelton, B.C. and thence by means of the Bulkley River road easterly to Four Mile Creek. From this point a forestry access road some 115 km in length extends to the center of the property itself.

TOPOGRAPHY AND VEGETATION

The surface presented by the property is moderately rolling with minor steep bluffs facing to the SW. Elevations vary from 1700' to 2200' ASL. The entire property is forest covered with an abundance of underbrush so that there is a decided paucity of outcrop available for observation. The area has been selectively logged in the past, however abundant timber is available for mining purposes. Water for exploration purposes is only available during the spring run-off and during the rainy season during late autumn.

At other times of the year water would necessarily be trucked to the property. Hazelton affords a source of supplies and labour, however extraordinary requirements could be met in Smithers, B.C. some 50 miles to the east.

GEOLOGY AND MINERALIZATION

The Mohawk and Lucky Jim claims overlie a portion of the contact members of the Hazelton Group, Upper Jurassic or Lower Cretaceous in age, and a prominent boss of the Coast Intrusive Series. The Hazelton Group is represented by intercolated andesites, tuffs and various silicic sediments. The acidic intrusive rocks are represented mainly by a fine to medium grained diorite, reasonably fresh in appearance, having suffered moderate albitization and chloritization of the ferro-magnesian members.

The contact zone itself is frequently sheared and has suffered passive and dynamic silicification. The silica in the shear zone may frequently carry sulphide mineralization, namely pyrite, galena, sphalerite and with lesser amounts of tetrahedrite and arsenopyrite. Such a shear zone has been investigated in the past with surface trenching and underground workings and has yielded a few tons of hand selected ore. Sample #1952 derived from the surface exposure of the shear zone yielded gold, Tr, Silver, 0.88 ounces per ton, lead, 1.12%, and zinc, 9.57%. Sample #1951 was derived from the underground workings over a width of 2' and yielded gold, Tr, silver, 2.48 ounces, lead, 2.50%, and zinc, 0.10%.

The vein was observed to pinch and swell as well as suffer minor off-sets due to faulting. The maximum width observed on surface and underground was 2' and may diminish to simply a lineal fracture.

HISTORY

The original property was staked by E.L. Kinman in 1909. This work consisted of surface stripping and trenching and commencement of an adit. By 1920 the adit had been advanced to approximately 500'. Additional underground work was carried out by W.S. Harris in 1925, and E.G. Brown in 1927. In 1928 Mohawk Mining Co. Ltd. extended the underground workings and shipped 69 tons of hand cobbled ore and a further 30 tons in 1929. The property has essentially lain idle since that time although several mining companies have examined the property, but there is little evidence of any physical work having been done. It is locally reported that Raven Milling Ltd. constructed a small mill in the early '70's with a view to processing the development dumps, however the mill was dismantled and removed before any production was actually carried out.

WORK PROGRAMME

During the period from September 24 to October 15, 1979, an exploration programme consisting of line cutting, electromagnetic survey, geochemical soil sampling and a single diamond drill hole was carried out. A grid was laid out with the base line striking 070⁰ and lines established at 100 metre intervals with stations at 25 metre intervals, for a total of 8.9 km of line. 312 geochemical soil samples were extracted and analysed for silver, lead and zinc. 7.5 line km's were read using a dual frequency vertical loop EM unit.

METHOD

A. Geochemistry.

At each station established on the line grid a sample was extracted from an average depth of 8" by means of a stainless steel auger. An attempt was made in each case to sample the B Horizon, i.e. the layer of soil immediately below the vegetative humus. The individual samples were bagged in heavy duty kraft envelopes, air dried, and screened to -80 mesh. The samples were then heated in a sand bath with nitric and perchloric acids (15%), the digested samples were diluted with distilled water and subjected to analyses by atomic absorption, using a tectron spectrophotometer, Model AA5. The analyses were then expressed in parts per million and plotted in their appropriate geographic location.

B. Electromagnetic Survey

The electromagnetic survey was conducted using a McPhar VHEM unit using dual frequencies at 600 and 2400 cps. The vertical loop orientation was used throughout the survey. In this method an alternating electromagnetic field is created by feeding alternating current through an induction coil with its axis held horizontally. In the presence of a sub-surface conductor the primary field created is distorted. This distortion is detected with the search coil held with its axis vertical and when readings are taken at each station along a traverse the distortion in the primary field may be measured and the axis of the sub-surface conductor be located. The readings, or dip angles are plotted in their appropriate geographical position relative to the orientation and position of the field, or induction coil. In the presence of a strong conductor the dip angles will suffer a reversal of dip angle. The

position of the zero point on the curve represents the horizontal location of the conductive axis.

C. Diamond Drilling

A Winkle diamond drill using an IEW core barrel yielding 1" core was used for the diamond drilling programme. Core recovery was excellent with essentially 100% recovery. It was found necessary to hire a water truck to support the drill in that supplies of water within reach on the property were insufficient. A total of 208' (63.4 metres of hole was drilled).

DISCUSSION OF RESULTS

The electromagnetic survey failed to locate any sub-surface conductive axis. Tests carried out over mineralized material underground indicated that conductivity was excellent over a few inches in strike length. When the test probes were separated by a foot or more the resistance of the rock increased exponentially. This would indicate that the slicks and blebs of massive sulphide material carried in the quartz are completely insulated from one another and thus are unable to give a linear conductive effect. The geochemical soil sampling survey yielded somewhat more positive results on the Mohawk Claim. The area along the baseline between 3 east and 4 east yielded values of up to ten times background in silver, lead and zinc. These values were derived from the immediate proximity of known mineralization in the area, so that the results are not unexpected. A second lineation appears on lines 3 and 4 east at 2 south. In this area the silver values approach six times background with lesser multiples expressed by the lead and zinc values. This area is considered significant in that there is no evidence of any

exploration activity carried out in that area in the past. It is suggested that bulldozer stripping be carried out in an effort to determine the causative factors of the anomalous silver content in the soils. The area of the Banker Hill claim yielded little of significance with predominately flat profiles. The area is underlain by the diorite of the Coast Intrusive Series and on the basis of metallic content in the soil appears barren of minerals tested. This is in part corroborated by the negative results of the electromagnetic survey.

The diamond drill hole was collared at the coordinates 0+48 south, 3+50 east and drilled along a bearing of 340° at a declination of -60° . The hole sectioned buff coloured metasediments and thence a tongue of medium grained diorite. At the second contact between the diorites and metasediments occurred a 2' section of silicious breccia carrying moderate mineralization in the form of pyrite, galena and sphalerite. Analysis of this section yielded gold, Tr, silver, 3.46 ounces per ton, lead, 2.3%, and zinc 3.32%. The tenor of the core analyses is similar to that derived from the mineralized structure sampled both underground and on surface.

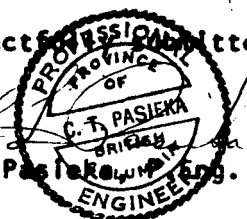
CONCLUSIONS AND RECOMMENDATIONS

The recently completed electromagnetic and geochemical soil sampling survey failed to extend the known zone of mineralization as observed on surface and in the underground workings. The geochemical survey indicated an anomalous zone occurring along the south margin of the Mohawk Claim. It would be in order to strip the area to bedrock surface so that the causative factors can be determined.

The diamond drill hole indicated that mineralization persists below the level of the underground workings on the main vein. This vein has been observed to pinch and swell in the horizontal sense, so that it is reasonable to assume that it would behave similarly in the vertical sense. To this end it would be in order to drill a hole to intersect the vein at a deeper horizon than currently known. To accomplish the above ends the following programme with estimated costs is offered.

1. Bulldozer stripping, D8 with rippers, 50 hours	
@ \$90/hour	\$ 4,500.00
2. Diamond drilling, 500' @ \$25/ft.	12,500.00
3. Supervision	2,000.00
4. Sampling and Assays	400.00
5. Travel and Accomodation	<u>1,000.00</u>
Total...	<u>\$20,400.00</u>

It is to be noted that the decision to execute the programme outlined above would be contingent upon the current economic climate, in the meantime assessment work should be filed and recorded so as to keep the property in good standing until such time as the decision is made.

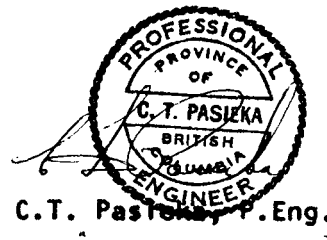
Respectfully,

 C.T. Pasieka
 ENGINEER

CERTIFICATION

I, Clemens Terence Pasieka, of the City of Kamloops, in the Province of British Columbia, hereby certify that:

1. I am a geologist and reside at #7 - 1570 Freshfield Road, Kamloops, B.C.
2. That I am a graduate of University College, Dublin, B.Sc. 1963.
3. That I have been practicing my profession as a geologist for seventeen years.
4. That I am a member of the Associations of Professional Engineers of the Provinces of Alberta, Saskatchewan and British Columbia.
5. That I have no interest, directly or indirectly, in the property or in the securities of Cumo Resources Ltd., nor do I expect to receive any such interest in the property or in the securities of Cumo Resources Ltd.
6. That this report is based on data derived from personal experience in the area, from work carried out under my supervision, and from relevant government and private publications.

Dated this 16th day of January, 1980, City of Kamloops, Province of British Columbia.



C.T. Pasieka, P.Eng.

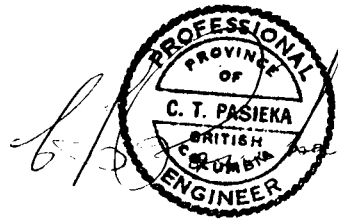
BIBLIOGRAPHY

±.

1. GSC Memoir 223 E.D. Kindle, 1954.
2. B.C. Minister of Mines Reports, 1909 - 1929.
3. GSC Map 971A (H.M.A. Price)
4. Evaluation Report - Mohawk Property, J.P. Elwell, P.Eng.
October 16, 1978.

LIST OF PERSONNEL

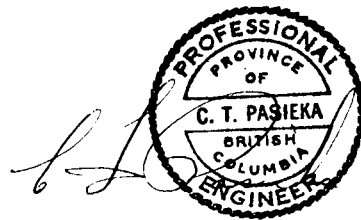
C.T. Pasieka	Geologist	Sept. 24 - Oct. 15, 1979
C. Pasieka	Geophysical operator	" " "
	(\$75/day)	
Chuck Marlow	Line cutter	Sept. 24 - 30 inclusive
	(\$75/day)	
C. Grave	Line cutter	Sept. 24 - 30 inclusive
	(\$75/day)	



STATEMENT OF COST

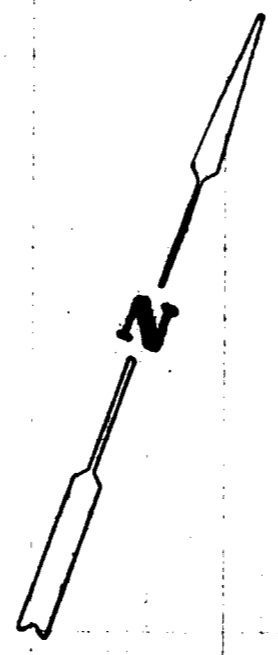
I hereby certify that the following costs were incurred by, invoiced to and paid by Cumo Resources Ltd.:

1. Line cutting - 8.9 km @ \$100/km	\$ 890.00
2. E.M. survey 7.5 km @ \$220/km	1,500.00
3. Soil sampling 312 samples @ \$5.00	1,560.00
4. Diamond drilling 208' @ \$25/ft.	5,200.00
5. Water service for drill	200.00
6. Engineering and Supervision	2,000.00
7. Accomodation 56 man days @ \$30.00	1,680.00
8. Transport 3940 miles @ \$25.00 (2 vehicles)	<u>985.00</u>
TOTAL	<u><u>\$14,015.00</u></u>

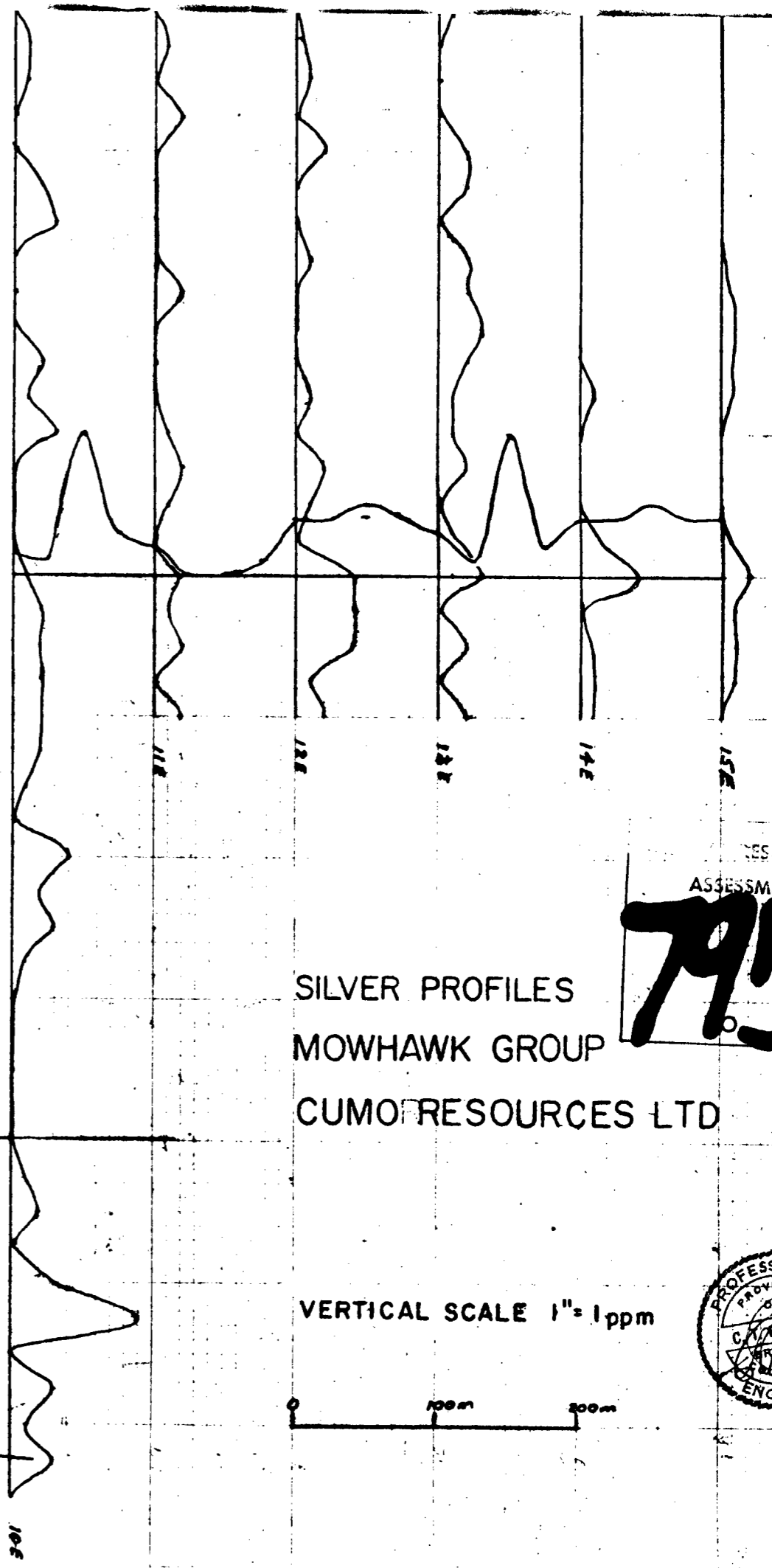
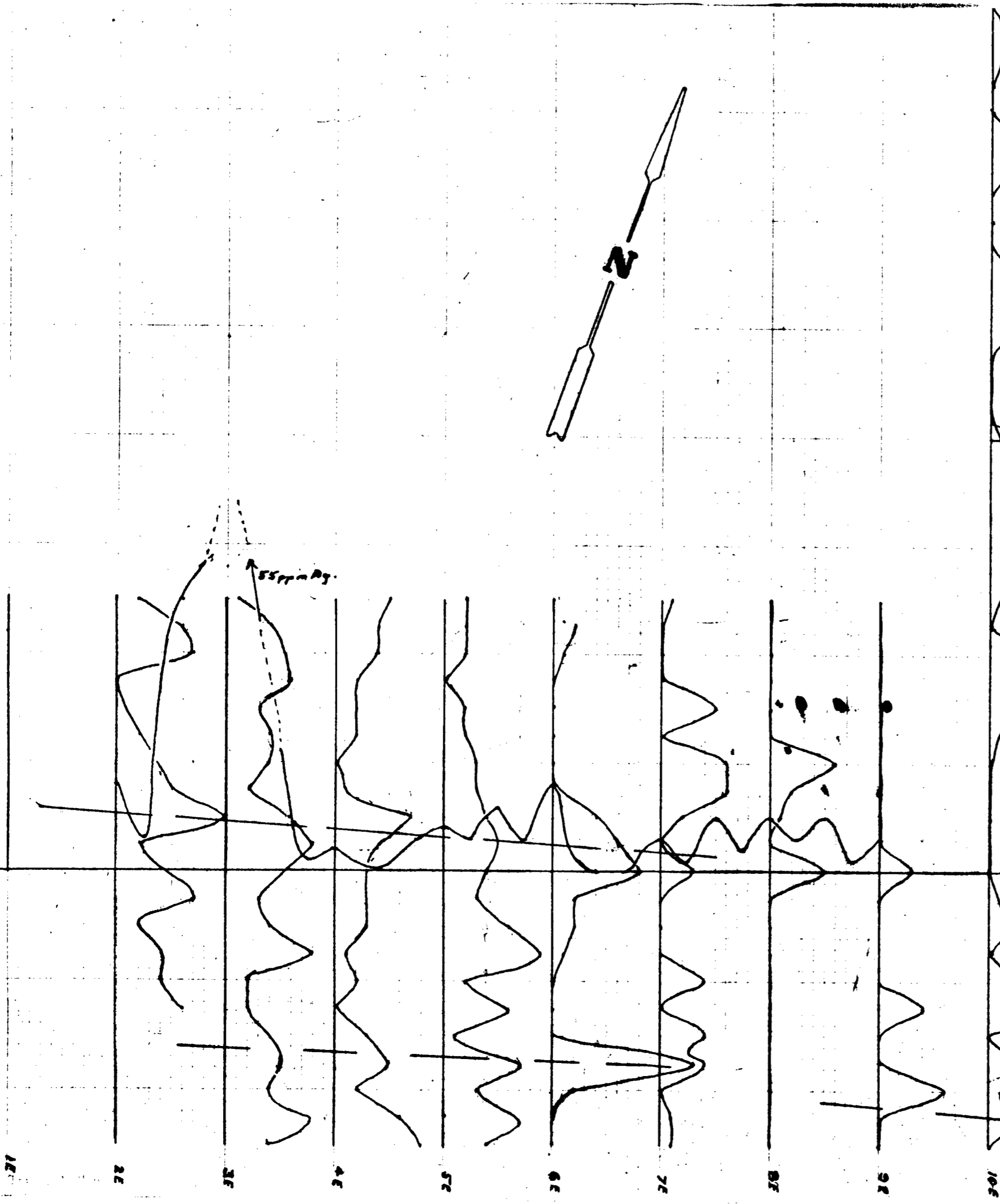


C.T. Pasieka, P.Eng.

7N
6N
5N
4N
3N
2N
1N
0
1S
2S



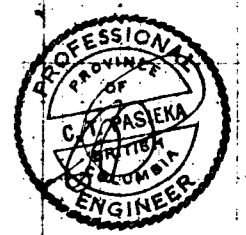
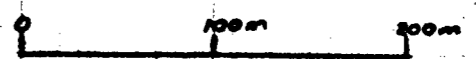
55 ppm Ag



SILVER PROFILES
MOWHAWK GROUP
CUMOT RESOURCES LTD

ASSESSMENT
7955

VERTICAL SCALE 1" = 1ppm



7N

6N

5N

4N

3N

2N

1N

00

1S

2S

From T-1

From T-1

From T-2

From T-1

From T-1

From T-2

From T-2

From T-3

From T-3

From T-4

11E From T-4

12E From T-5

13E From T-4

14E From T-4

15E From T-5

1E

2E

3E

4E

5E

6E

7E

8E

9E

10E

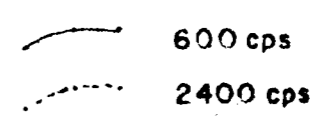
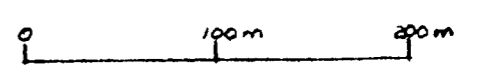
ELECTRO-MAGNETIC SURVEY

MOHAWK GROUP

CUMO RESOURCES LIMITED

VERTICAL SCALE 1" = 20'

NORTH DIP ANGLES PLOTTED ABOVE LINE



7955

7N

6N

5N

4N

3N

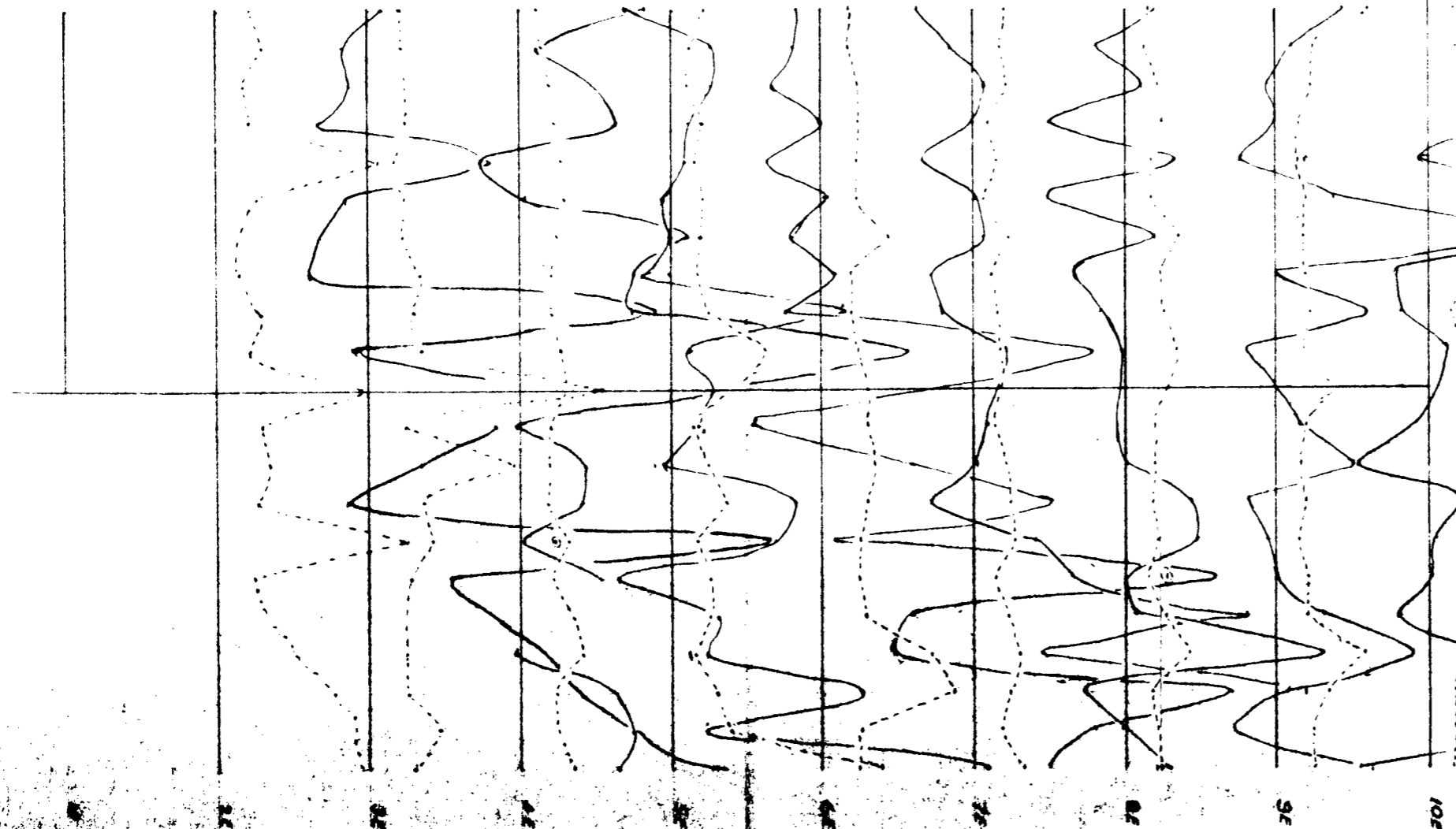
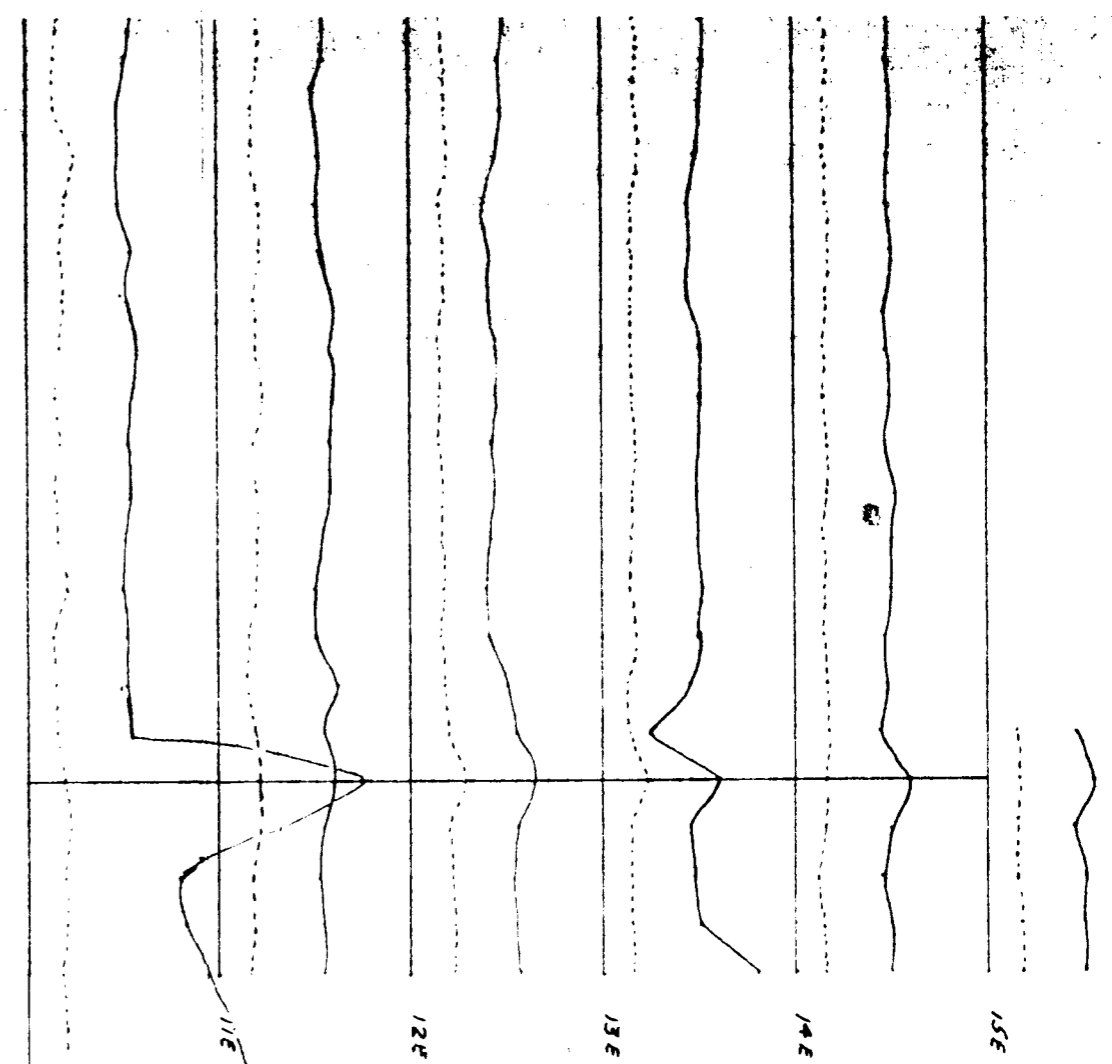
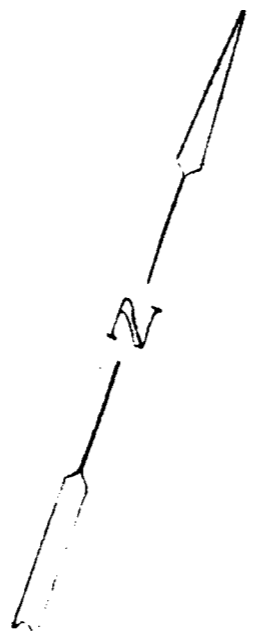
2N

1N



00

1S

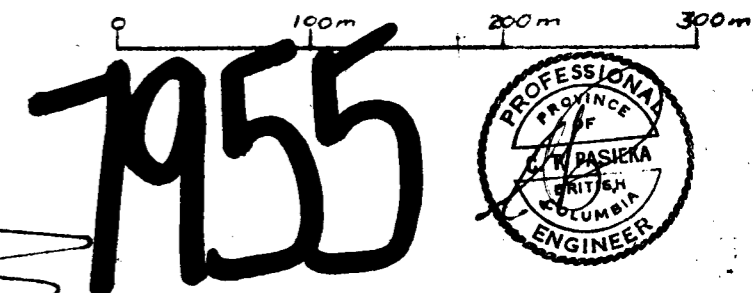
2S



LEAD AND ZINC PROFILES
 MOHAWK GROUP
 CUMO RESOURCES LTD

ZINC 
 LEAD 

VERTICAL SCALE 1" = 100 ppm



DIAMOND DRILL CORE LOG - SAMPLE RECORD

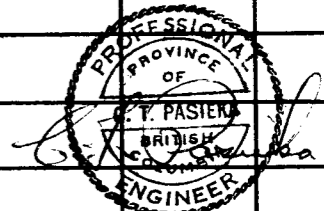
DEPTH	DIP	BEARING
COLLAR	-60°	340°

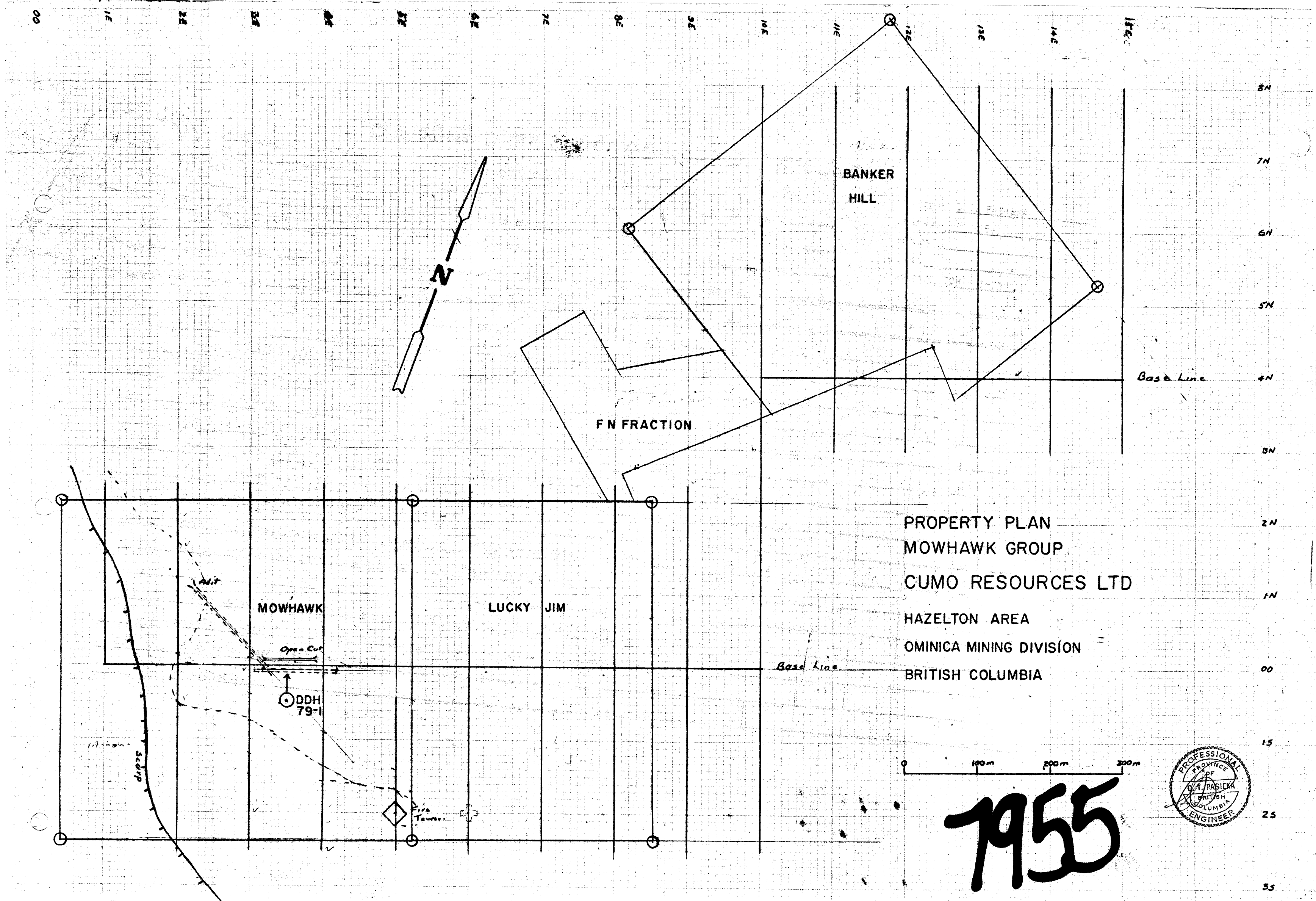
PROPERTY CUMO RESOURCES LTD. CLAIM MOHAWK
 LATITUDE 0 + 48 S STARTED Oct. 5, 1979
 DEPARTURE 3 + 50 E FINISHED Oct. 11, 1979
 ELEVATION 2118 (approx) TOTAL LENGTH 208' (63.4 m)

LOGGED BY C.T. PASIEKA
 CORE SIZE 1" (1EX)
 SECTION _____
 LEVEL _____
 HOLE NO. DDH - 1-79

Footage	DESCRIPTION	MINERALIZATION	Sample	From	To	Length	Copper %	Gold Oz.	Silver Oz.	Cum. Totals	
	Collar										
19	Casing										
64	Buff coloured crystal tuff-bleached with ferro-magnesian crystals reduced to silliminite talc aggregates - Pale feldspars phenocrystals have haloes of albite. Minor silica and pyrite.	-Tr + py									
186	Medium grained diorite-dark in colour and fresh in appearance-finer grained near contact with tuffs. Occasional quartz filled fracture.	No visible mineral									Pb Zn
188	Mainly tuffaceous material but with heavy silica impregnation-somewhat brecciated.	Minor disseminated galena & pyrite in fractures	1953	186	188	2'		Tr	3.46	2.3%	3.32%
208	Buff coloured tuffaceous material with minor chloritic streaks	No visible mineralization									
208	End of hole, Casing salvaged, core stored on the property.										

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
7955
 No.





PROPERTY PLAN
 MOWHAWK GROUP
 CUMO RESOURCES LTD
 HAZELTON AREA
 OMINICA MINING DIVISION
 BRITISH COLUMBIA

7955

